CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/MNR/W.No.20/CSR-05/327e/CEMENT/2017-18 Date: 05.05.2017

TEST REPORT ON CEMENT

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. M.N. Ramaiah,** No.28, 5th Main, Dattatrya Nagara, Hoskerehalli, BSK 3rd Stage, Bangalore – 560 085.
* Name of Work	:	Improvements to drains at 8th and 9th cross MEI Layout (Arround Park) in Bagalgunte Ward No.20, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/59/2017-18 Dated : 04.05.2017
* Sample ID	:	Cement
Sample Received on	:	04.05.2017
Period of Testing	:	04.05.2017 to 05.05.2017

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988 (RA-2014)	28.50 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	145 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	490 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988 (RA-2014)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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T-2377

Job No.: CTCE/BBMP/MNR/W.No.20/CSR-05/327e/SAND-Gradation/2017-18 05.05.2017

TEST REPORT ON SIEVE ANALYSIS OF FINE AGGREGATES

* Customer	: **Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	: **Mr. M.N. Ramaiah,** No.28, 5th Main, Dattatrya Nagara, Hoskerehalli, BSK 3rd Stage, Bangalore – 560 085.
* Name of Work	: Improvements to drains at 8th and 9th cross MEI Layout (Arround Park) in Bagalgunte Ward No.20, BBMP, Bangalore.
* Reference	: BBMP/DZ/AEE/TDSD/PR/59/2017-18 Dated : 04.05.2017
* Sample ID	: Fine Aggregates
Technical Reference	: IS : 2386 (Part 1) - 1963 (RA-2011)
Sample Received On	: 04.05.2017
Date of Testing	: 05.05.2017

Total Wt. of Aggregates in gms = **1000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS-383-1970 (RA- 2011)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	93.50	90-100	90-100	90-100	95-100
2.36	72.50	60-95	75-100	85-100	95-100
1.18	50.00	30-70	55-90	75-100	90-100
600 Micron	25.50	15-34	35-59	60-79	80-100
300 Micron	12.50	5-20	8-30	12-40	15-50
150 Micron	5.30	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-I specific limits.

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Job No.: CTCE/BBMP/MNR/W.No.20/CSR-05/327e/AGG/GR/2017-18 05.05.2017

TEST REPORT ON SIEVE ANALYSIS OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. M.N. Ramaiah,** No.28, 5th Main, Dattatrya Nagara, Hoskerehalli, BSK 3rd Stage, Bangalore – 560
* Name of Work	:	Improvements to drains at 8th and 9th cross MEI Layout (Arround Park) in Bagalgunte Ward No.20, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/59/2017-18 Dated : 04.05.2017
* Sample ID	:	Coarse Aggregates (40mm)
Technical Reference	:	IS : 2386 (Part 1) -1963 (RA-2011)
Sample Received on	:	04.05.2017
Date of Testing	:	05.05.2017

Total Wt. of Aggregates in gms= **5000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2011)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	97.10	95-100	85-100
20	40.10	30-70	0-20
10	14.60	10-35	0-5
4.75	2.80	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under graded specific limits.

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Job No.: CTCE/BBMP/MNR/W.No.20/CSR-05/327e/AGG/GR/2017-18 05.05.2017

TEST REPORT ON SIEVE ANALYSIS OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. M.N. Ramaiah,** No.28, 5th Main, Dattatrya Nagara, Hoskerehalli, BSK 3rd Stage, Bangalore – 560 085.
* Name of Work	:	Improvements to drains at 8th and 9th cross MEI Layout (Arround Park) in Bagalgunte Ward No.20, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/59/2017-18 Dated : 04.05.2017
* Sample ID	:	Coarse Aggregates (20mm)
Technical Reference	:	IS : 2386 (Part 1) -1963(RA-2011)
Sample Received on	:	04.05.2017
Date of Testing	:	05.05.2017

Total Wt. of Aggregates in gms= **5000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS :383-1970 (RA- 2011)	
		Graded	Single Sized
40	100	100	100
20	96.90	95-100	85-100
10	32.00	25-55	0-20
4.75	5.06	0-10	0-5

* Information is furnished by the Customer/Representative

Remarks : This sample is under Graded specific limits

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Job No.: CTCE/BBMP/MNR/W.No.20/CSR-05/327e/CC Solid Block/2017-18 08.05.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF SOLID CONCRETE BLOCKS

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. M.N. Ramaiah,** No.28, 5th Main, Dattatrya Nagara, Hoskerehalli, BSK 3rd Stage, Bangalore – 560 085.
* Name of Work	:	Improvements to drains at 8th and 9th cross MEI Layout (Arround Park) in Bagalgunte Ward No.20, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/59/2017-18 Dated : 04.05.2017
Technical Reference	:	IS: 2185 (Part-1) - 2005 (RA-2010)
Size of Blocks	:	400mm x 200mm x 200mm
Cross Sectional Area	:	80000 mm^2
No. of Blocks Tested	:	08
Sample Received on	:	04.05.2017
Date of Testing	:	08.05.2017

Sl.No.	Block ID	Wt. in Kg	Failure load (KN)	Compressive strength (N/mm^2)	Requirement as per IS: 2185 (Part-1) - 2005 (RA-2010)
1	Block 1	34.52	285.4	3.57	Minimum required Compressive Strength of Individual Units 3.20 N/mm^2
2	Block 2	35.26	283.2	3.54	
3	Block 3	35.48	280.7	3.51	
4	Block 4	34.17	284.1	3.55	
5	Block 5	34.23	286.3	3.58	
6	Block 6	35.62	281.4	3.52	
7	Block 7	35.82	282.9	3.54	
8	Block 8	35.29	280.7	3.51	

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Job No.: CTCE/BBMP/MNR/W.No.20/CSR-05/327e/Pre Slab/2017-18 25.05.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CORE

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. M.N. Ramaiah,** No.28, 5th Main, Dattatrya Nagara, Hoskerehalli, BSK 3rd Stage, Bangalore – 560 085.
* Name of work	:	Improvements to drains at 8th and 9th cross MEI Layout (Arround Park) in Bagalgunte Ward No.20, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/59/2017-18 Dated : 04.05.2017
* Sample ID	:	Precast Slab
* Grade of Concrete	:	M_{20}
Techinical Reference	:	IS:516-1959 (RA- 2013), SP-24:1983.
Sample Received on	:	20.05.2017
Date of Testing	:	25.05.2017

Sl. No	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	78.00	0.385	2513.83	1.56	0.952	32.40	16.50	17.82	18.71	23.39
2	50.00	81.00	0.408	2565.34	1.62	0.959	33.85	17.24	18.62	17.85	22.32
3	50.00	80.00	0.393	2501.92	1.60	0.957	34.25	17.44	18.84	18.03	22.53

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Job No.: CTCE/BBMP/MNR/W.No.20/CSR-05/327e/Cube/2017-18 17.06.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. M.N. Ramaiah,** No.28, 5th Main, Dattatrya Nagara, Hoskerehalli, BSK 3rd Stage, Bangalore –
* Name of the work	:	Improvements to drains at 8th and 9th cross MEI Layout (Arround Park) in Bagalgunte Ward No.20, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/59/2017-18 Dated : 04.05.2017
* Sample ID	:	Cement Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{10}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	17.06.2017

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	20.05.2017	17.06.2017	8.263	256.3	11.39
2	20.05.2017	17.06.2017	8.475	269.8	11.99
3	20.05.2017	17.06.2017	8.327	278.2	12.36

*Information is furnished by the Customer/Representative.

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